DOCUMENT RESUME

ED 098 679 EA 006 517

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TITLE The Diffusion of Instructional Innovations in the Public Schools of Mississippi (1958-1973) and Arkansas (1966-1973).
PUB DATE 74
NOTE 14p.; Paper presented at the Annual Meeting of the Mid-South Educational Research Association (New Orleans, Louisiana, 1974)

EDRS PRICE MF-$0.75 HC-$1.50 PLUS POSTAGE
DESCRIPTORS *Adoption (Ideas); Change Agents; *Comparative Analysis; *Diffusion; Doctoral Theses; *Educational Change; Elementary Secondary Education; *Instructional Innovation; Questionnaires; State Departments of Education

ABSTRACT

An analysis of the findings of three studies that were the bases of doctoral dissertations completed under the direction of the author are presented. The basic source of data was a questionnaire sent to all school superintendents in Mississippi and to a sample of superintendents in Arkansas. Some of the findings included in the synthesis are: (1) research on the diffusion of innovations has progressed in recent years and is moving at an accelerated rate; (2) the largest number of innovation adoptions reported came in the last year, indicating an acceleration in the rate of adoption throughout the period of the study; (3) instructional innovations took place in language arts more than any other subject area, followed by mathematics, science, and social studies; (4) academic programs for the average and below-average ability students received more attention than did those for the over-average; and (5) in general, the data from other States show that both Mississippi and Arkansas are starting late but following the same general adoption patterns that have been set in other States. (Author/MLF)

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THE DIFFUSION OF INSTRUCTIONAL INNOVATIONS IN THE PUBLIC SCHOOLS OF MISSISSIPPI (1958-1973) AND ARKANSAS (1966-1973)

by

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Paper presented at Mid-South Educational Research Association Meeting, New Orleans, 1974.

EA 006 517

1974

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Previous State-wide Studies

Brickell conducted a study of schools in New York state in 1961.[1] He identified and evaluated specific changes, encouraged greater use of innovations, and discussed ways in which greater diffusion could take place. He concluded that the changes were all within the context of the traditional organization of the schools. Brickell recommended the establishment of three independent groups to deal with innovations in design, evaluation, and development separately.

Bruno conducted a study of Washington schools in 1962[2] and Stufflebeam surveyed schools in Ohio in 1966.[3] These studies both focused only upon the identification of instructional changes. The major purposes of the studies were to identify new practices, contribute to the sharing of ideas, and lend support and encouragement to districts which were trying innovations.

Stameshkin reported on a national survey sponsored by the North Central Association and the Kettering Foundation's Institute

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[1]Henry M. Brickell, Organizing New York State for Educational Change (Albany: State Education Department, 1961).

[2]Louis Bruno, Improvement of Instruction in Washington Schools (Olympia: Office of the Superintendent of Public Instruction, 1962).

[3]Daniel L. Stufflebeam, Ohio Education Innovations Survey (Columbus: The Ohio State University, 1966).

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for the Development of Educational Activity.[4] The survey inventoried twenty-seven selected innovations by questionnaire, asking the administrators of 10,266 regionally accredited schools to evaluate the status of the selected innovations in their own schools. The analyses made from the responses to the questionnaires are as follows:

1. The survey indicated that twelve practices can no longer be considered innovations. These practices are: PSSC physics, CHEM Study, programmed instruction, language laboratories, data processing equipment (used for scheduling and accounting), team teaching, college credit courses in high school, teacher aides, work study programs, student exchange programs, and cultural enrichment programs.

2. High levels of average adoption of the selected innovations were reported by California, Florida, Michigan, New Jersey, and Pennsylvania. Low levels of average adoption were reported by Arkansas, Louisiana, Mississippi, South Dakota, and West Virginia. The states having a high average adoption rate per state reported the implementation of seven or more of the selected innovations while the states having a low average adoption rate per state reported implementation of approximately four innovations. The expenditure per pupil in all low adoption states was less than $350 for more than 75 per cent of the schools in each state.

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[4]Anne Stameshkin (ed.), "Innovation Study of Nation's High Schools Reveals Important Changes in Recent Years," Today, XI (March, 1967), 1-6.

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A study of fifty-eight school districts in Oregon was conducted by Kohl in 1969.[5] The purposes of the study were to: (1) identify, relate, and evaluate school superintendents' perceptions of the characteristics of innovation to each stage of the adoption process; (2) determine the adoption status of seven educational innovations (team teaching, flexible scheduling, the use of teacher aides, the use of language laboratories, teaching with the use of television, student grouping for special purposes, and independent variables (organizational pattern of the school system, classification of the school, the number of students enrolled in grade twelve, the percentage of graduating seniors receiving post high school education, and the per pupil expenditure).

The findings of the study were:

1. Innovation characteristics exist and have empirical utility.

2. The adoption process and its stages were supported.

3. The study indicated that the organizational pattern had little significant relationship to the adoption of any of the innovations.

School classification does not relate significantly to the adoption of staff utilization practices.

The schools with 45-64 per cent of students receiving post high school education had the highest percentage of adoption on all

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[5]John W. Kohl, "Adoption, Adoption Stages and Perceptions of the Characteristics of Innovations," California Journal of Educational Research, XX (May, 1969), 120-129.

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innovations except independent study.

Although Mort made a case for the level of financial support as an indicator of a school system's adaptability to new ideas, the relationship was not supported by this research.[6]

The size of the graduating class was the only independent variable found to be statistically significant; generally, the larger the graduating class the more often the adoption of the innovation.

4. Perceptions of characteristics of innovations are related to the stages in the adoption process.

Relative advantage--most often at adoption stage
Communicability--most often at interest stage
Complexity--most often at interest stage
Divisibility--most often at interest stage
Compatibility--most often at adoption stage

5. The interest stage appears most critical in the process, followed by adoption, awareness, evaluation, and trial.

6. Some characteristics occur at more than one stage. Compatibility occurred most frequently in the total process, followed by relative advantage, divisibility, complexity, and communicability.

Mississippi I Study

Under the direction of the author, Moreton conducted a study of the diffusion of instructional innovations in the public schools of Mississippi for the period 1958-1966.[7]

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[6] Paul R. Mort, as quoted in Donald H. Ross (ed.), Administration for Adaptability (New York: Metropolitan School Study Council, 1958).

[7] Ross E. Moreton, "The Diffusion of Certain Instructional Innovations in the Public School Districts of Mississippi: 1958-1966" (unpublished Doctor's dissertation, The University of Mississippi, 1968).

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He analyzed and summarized the research to that date on the diffusion of innovations, not only in education but in other fields; identified and evaluated recent instructional innovations; compared Mississippi instructional diffusion rates with those of other states; and examined the relationship between certain hypothesized factors and the rate of diffusion of innovations in Mississippi schools. This study will be referred to in this paper as the Mississippi I study.

Mississippi II Study

Also under the direction of the author, Randle conducted a parallel study of the diffusion of instructional innovations in the public schools of Mississippi for the period 1967-1973.[8] This study will be referred to in this paper as the Mississippi II study.

Arkansas Study

Parallel to the Mississippi I study in its structure, and parallel to the Mississippi II study in the time used, Faily's study of the diffusion of instructional innovations in the public schools of Arkansas was also directed by the author.[9] The only major difference among the studies was that the two Mississippi studies used the total population of school districts in that state and the Arkansas study was based on a stratified random sample.

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[8]Sale D. Randle, "The Diffusion of Certain Instructional Innovations in the Public Schools of Mississippi: 1966-1973" (unpublished Doctor's dissertation, The University of Mississippi, 1974.)

[9]Anwar Faily, "The Diffusion of Certain Instructional Innovations in Selected Public School Districts of Arkansas: 1966-1973" (unpublished Doctor's dissertation, The University of Mississippi, 1974).

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Methodology for the Studies

Methodology for all three studies was highly similar. The basic source of date for the Mississippi I study was a questionnaire, adapted from the one used in the studies in Ohio and New York. The Mississippi II study and the Arkansas study used the same questionnaire, with minor variations.

The questionnaire was sent to the superintendent of each school district in the state of Mississippi (approximately 150) and to the superintendent of each of the 91 school districts included in the sample for Arkansas. Each superintendent was asked to list the innovations that had been implemented in his school district during the period of the study and to give information about each innovation. No attempt was made to define "innovation" except in terms of "being new to that school system."

Each of the three studies included comparisons to determine which, if any, of several hypothesized factors were closely associated with adoption of instructional innovations. Data for these comparisons were obtained from the questionnaires and from published reports of the respective state departments of education.

Synthesis of the Findings of the Studies

1. Research on the diffusion of innovations has progressed in recent years and is moving at an accelerated rate. This is contrary to the finding at the end of the Mississippi I study (1958-1966).

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However, the processes of change are more clearly established in the fields of agriculture, industry, and medicine than in education.

2. The response of Arkansas and Mississippi school district superintendents indicated a willingness to report instructional innovations. In the Arkansas study 96.7 per cent of the administrators in the sample responded with 232 reported adoptions. In the Mississippi II study 100 per cent of the administrators responded with 601 reported adoptions. The number of adoptions in the Arkansas study ranged from zero to thirteen per school district. In the Mississippi I study the range was from zero to eight per school district. In the Mississippi II study the range was from zero to thirty-six per school district.

3. In the Arkansas study 77 per cent of the sample school districts reported at least one instructional innovation, with a mean of 3.41 for the entire eight-year period of the study. For the total sample, the mean was 2.54 innovations per school district. In the Mississippi I study, 94 of 149 school districts reported at least one instructional innovation for the period of the study (1958-1966). The mean number of instructional innovations for all 149 districts was 1.72. In the Mississippi II study, the mean number of instructional innovations identified by the 132 school districts (of 150) reporting one or more instructional innovations was 4.55 for the entire eight-year period. The mean number of instructional innovations adopted in all 150 school districts was 4.01 per school district.

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4. In all three studies, the largest number of adoptions reported came in the last year, indicatingan acceleration in the rate of adoption throughout the period of the study. With the exception of one year in Mississippi, the studies also showed a continuous year-to-year increase in the number of adoptions. In the Mississippi I study, the Municipal Separate School Districts were the adoption leaders; in the Mississippi II study, the county unit school districts were the adoption leaders. In the Arkansas study, the North Central school districts were the adoption leaders except for the years of 1968 and 1970.

5. Mississippi school districts are adopting more innovations and at a faster rate than is true in Arkansas. When compared with data available from other states, the adoption rate in instructional innovations in Arkansas is moving at a slower rate than in the states of New York, Washington, Ohio, West Virginia, and Mississippi.

6. The diffusion rates for instructional innovations in Arkansas and Mississippi were somewhat similar to those in the states of New York, Ohio, and Washington, except for a substantial time lag.

7. In Arkansas the adoption of instructional innovations was about the same for the elementary grades and the secondary grades; however, in both Mississippi studies, there were more adoptions in the elementary grades than in the secondary grades.

8. The instructional innovation most often reported in the Arkansas study was a remedial reading program, followed by kindergarten.

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In both Mississippi studies the instructional innovation most often reported was a general reading program, followed by special education. In all three studies, the instructional innovations involved the area of language arts more than any other subject area, followed by, in order, mathematics, science, and social studies.

9. In all three studies, academic programs for the average and below-average ability students received more attention than did those for the over-average ability students. Over two-thirds of the instructional innovations reported in the three studies indicated a program of study for the average ability students. Reading, mathematics, and special education were the three programs most often reported that were especially designed for the below average student. The programs designed for the above-average ability students tended to be, in Arkansas, science and foreign language, and in Mississippi, science, mathematics, and language arts.

10. It was found in all three studies that a change occurs in the organization and the personnel resulting from the implementation of the instructional innovations. In Arkansas, changes in personnel exceeded that of organization; however, in the Mississippi studies the reverse was true.

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11. In all three studies it was found that none of the hypothesized factors was closely related to the number of innovations. These factors and the correlation between the number of innovations reported and the size of the factor are:

Characteristic	Mississippi I r	Mississippi II r	Arkansas r
Instructional personnel per 1000 pupils	.337	.116	-.063
Salaries for all instructional personnel	.258	.132	-.064
Percent of revenue received from the federal government	.120	.008	N/A
Expenditure per pupil in average daily attendence	.285	.145	.241
Salary of the district superintendent	.234	N/A	N/A
Percent of revenue received from the local government	N/A	.113	N/A
Percent average daily attendance of the enrollment	N/A	-.035	.097
Minimum foundation program aid per average daily attendance	N/A	N/A	.237
Amount of local receipts per average daily attendance	N/A	N/A	-.010

12. The State Department of Education was regarded as the most influential agent in the adoption of instructional innovations in all the studies.

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13. Adoption curves:

A. The adoption curves for Arkansas are similar to the Mississippi adoption curves in language arts and science, except for a time lag of several years.

B. The adoption curves for Arkansas and Mississippi are similar to the New York adoption curve except for a substantial time lag.

C. The adoption curve in language arts is similar for New York, Mississippi, and Arkansas, except for the time lags.

D. The Mississippi II study shows no curve drops for language arts and mathematics. However, there are curve drops in the Arkansas study and the Mississippi I study. In the New York study there are no curve drops with the exception of social studies.

E. The percentage of adoptions of language arts in all the studies is higher than in mathematics, science, and social studies.

F. The Mississippi II study indicates that the recent Mississippi adoption curves surpass those of the Arkansas study and the Mississippi I study.

G. The social studies and the mathematics curves of Arkansas show a sharp and continuous acceleration in the adoption practices in comparison with the Mississippi studies.

14. In general, the data from other states show that both

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Mississippi and Arkansas are starting late and following the same general patterns that have been set in other states. Arkansas tends to lag behind Mississippi in implementation.